Academic Year: 2024-2025

Name of the teacher: Dr. Bhaurav Tukaram Dangat

Programme: B. Sc. III Semester: V

Subject: Botany

Course Title: "Biochemistry and Stress Physiology & Plants Systematics and Paleobotany"

Month: July			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section II:	Phylogeny of Angiosperms, The general account of origin of
04	04	08	Unit I1: System of Classification.	Angiosperms (with reference to Gnetalean theory)
Mo	onth: Augu	st	Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit 11:	Classification system of Takhtajan, Brief reference of Angiosperm Phylogeny Group
04	04	05	System of Classification.	(APG-III) classification (2009).
Mon	th: Septem	ber	Module/Unit:	Sub-units planned
04	04	08	Unit I1: System of Classification. Unit IV: Paleobotany.	Ranks of IUCN and methods of Conservation. General account types of fossils. Geological time scale.
Мо	nth: Octob	er	Module/Unit:	Sub-units planned
04		04	Unit IV: Paleobotany	Study of following form genera with reference to systematic position, external morphology and affinities – Lyginopteris and Enigmocarpon 4c:Applications of Paleobotany- Role of microfossils in oil and coal exploration.

Name and Signature of HoD DEPARIMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)



VIVEKANAND COLLEGE, KOLHAPUT

Academic Year: 2024-2025

Name of the teacher: Dr. Bhaurav Tukaram Dangat

Programme: B. Sc. I Semester: I

Subject: Botany

Course Title: "Plant Morphology"

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: General organization of	Root system – Introduction, types and
04	04	08	plant body:	modification of Shoot system -
				Introduction and modification of stem
Mor	Month: September		Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: General organization of plant body:	Leaf – Introduction, Types- Simple and
04	04	08		Complex, Phyllotaxy, Leaf venation, Modification
Mo	onth: Octobe	r	Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit II: Study of Inflorescence	Definition and characters, types of inflorescence
05	04	09		and significance of inflorescence.

ave Name and Signature of HoD AD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)





Academic Year: 2023-2024

Name of the teacher: Dr. Bhaurav Tukaram Dangat

Programme: B. Sc. II Semester: III

Subject: Botany (Minor)

Course Title: "MIN03BOT32: "Plant Taxonomy"

Month: July			Module/Unit:	Sub-units planned
Lectures 04	Practical's 04	Total 08	Unit-2: Botanical Nomenclature	Principles and rules (ICN), Salient features of International Code of Botanical Nomenclature (ICBN),
Month: August			Module/Unit:	Sub-units planned
Lectures 04	Practical's 04	Total 08	Unit-2: Botanical Nomenclature	Rules and regulations of Binomial nomenclature System, Systems of Classification-Natural, Artificial and Phylogenetic
Month: September		er	Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit-2: Botanical Nomenclature	Bentham and Hooter's system of Classification
04	04	08		(Up to series).

Name and Signature of HoD DEPARIMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)





Academic Year: 2024-2025

Name of the teacher: Dr. Bhaurav Tukaram Dangat

Programme: B. Sc. II Semester: III

Subject: Botany (Major)

Course Title: "DSC03BOT32: "Diversity of Phanerogams"

Month: July		Module/Unit:	Sub-units Planned	
Practical's Total		Unit- 3: Angiosperms	Introduction, Habit and Habitat diversity, Methods of reproduction	
04	08			
onth: Augus	t	Module/Unit:	Sub-units Planned	
Practical's	Total	Unit- 3: Angiosperms	Evolutionary history, Taxonomic hierarchy, Bentham and Hooker System of Classification (Merit and	
04	08		Demerit),	
Month: September		Module/Unit:	Sub-units Planned	
Practical's	Total	Unit- 3: Angiosperms	Difference between Dicot and Monocot plant,	
04	08			
onth: Octobe	r	Module/Unit:	Sub-units Planned	
Practical's	Total	Unit- 3: Angiosperms	Study of Sunflower and Maize root and stem.	
34	02			
	Practical's 04 onth: Augus Practical's 04 nth: Septemb Practical's 04 onth: Octobe	Practical'sTotal0408onth: AugustPractical'sTotal0408onth: SeptemberPractical'sTotal0408onth: OctoberPractical'sTotalOttal	Practical'sTotalUnit- 3: Angiosperms0408	

ucl (1) Name and Signature of HoD DEPARTMENT OF BOTANY VIVERAMAND COLLEGE HOLHAPUR -MONWEREN AUTONOMOUS





Academic Year: 2024-2025

Name of the teacher: Dr. Bhaurav Tukaram Dangat

Programme: B. Sc. I

Semester: 1

Subject: Botany

Course Title: "Plant Morphology"

Month: August		t	Module/Unit:	Sub-units planned
Lectures 04	Practical's 04	Total 08	Unit I: General organization of plant body:	Root system – Introduction, types and modification of Shoot system – Introduction and modification of stem
Mo	nth: Septemb	ber	Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: General organization of plant body:	Leaf – Introduction, Types- Simple and
04	04	08		Complex, Phyllotaxy, Leaf venation, Modification
Month: October		r	Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit II: Study of Inflorescence	Definition and characters, types of inflorescence
05	04	09		and significance of inflorescence.

a Name and Signature of HoD DEPARTMENT OF BUTTANY

VIVEKANAND COLLEGE, KOLHAPUR



PRINCIPAL VIVEKANAND CHELEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

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Academic Year: 2024-2025

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme: B. Sc. I

Semester: I

Subject: Botany

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Course Title: "Plant Morphology"

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of Flower	3a. Definition and parts of a typical flower
04	00	04		3b.Symmetry and insertion of floral whorls.
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of Flower	3c. Calyx and Corolla 3d. Perianth - types
04	04	08	Practical I	
Mon	th: Septem	ber	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Study of Flower	3e. Androecium- parts and types
04	04	08	Practica I	3f. Gynoecium -parts, arrangement and types of placntation.
Month: October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Study of Fruit Practica I	4a. Introduction and types with one example
04	04	08	r factica f	each.

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(Dr. A. R. Kasafkar) Name and Signature of Teacher



Name and Signature of HoD DY HEAD

DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTON DMALL

Academic Year: 2024-2025

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme: B. Sc. II

1

Semester: III

Subject: Botany (DSC03BOT32)

Course Title: " Diversity of Phanerogams"

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Phanerogams	1. Introduction, Distinguishing characters
04	02	06	Practical I	of Gymnosperms and Angiosperms.
Mon	th: Septemb	ber	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Importance	4. Morphology, Anatomy,
04	04	08	Practical I	Chemotaxonomy and Palynology. Cytotaxonomy, Chemotaxonomy, Numerical Taxonomy.
Mo	onth: Octobe	er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Importance	4.Molecular taxonomy and DNA barcoding of
03	03	06	Practical I	plants. Herbaria, Herbarium technique and Digital herbaria.

Masableor

(Dr A. R. Kasaskar) Name and Signature of Teacher



a Name and Signature of HoD (Dr. B.T. Daugat

DEPARTMENT OF BOTANY VIVEXANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

# Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme: B. Sc. II

Semester: III

#### Subject: Botany (MIN03BOT32)

Course Title: "Plant Taxonomy"

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Literature	4. Flora, Manuals, Monographs, eflora,
04	02	06	Practical I	Revisions, Journals.
Mon	Month: September		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Literature	4. Periodicals, Reference Books, Research paper,
04	04	08	Practical I	Websites and Catalogues
Month: October		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Literature	4. Plant Families : Malavaceae and
03	03	06	Practical I	Amaryllidaceae

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(Dr. A. R. Kasackar) Name and Signature of Teacher



angat Name and Signature of HoD ( Dr. B.T. Danga

HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLFIAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme: B. Sc. II

Semester: III

Subject: Botany (MIN03BOT32)

Course Title: "Plant Taxonomy"

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Literature	4. Flora, Manuals, Monographs, eflora,
04	02	06	Practical I	Revisions, Journals.
Month: September		ber	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Literature	4. Periodicals, Reference Books, Research paper, Websites and Catalogues
04	04	08	Practical I	
Month: October		er	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit IV: Taxonomic Literature	4. Plant Families : Malavaceae and
03	03	06	Practical I	Amaryllidaceae

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(Dr. A. R. Kasathar) Name and Signature of Teacher



Name and Signature of HoD ( Dr. B.F. Danga

HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

Name of the teacher: Dr. Abhijeet Rajaram Kasarkar

Programme: B. Sc. III

Semester: V

Subject: Botany

# Course Title: " Plant Pathology and Biofertiizers" and "Plant Systematics and Paleobotany"

Month: August			Module/Unit:	Sub-units planned
Lectures Practicals Total		Total	Section : 11 Unit III: Plant Families	3a. Study of plant families : Anacardiaceae Fabaceae ,Apiaceae,
	04	08	Practical II	Rubiaceae
04 04 08 Month: September			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit III: Plant Families Unit IV : Biofertilizer	3a. Study of plant families : Achanthaceae, Euphorbiaceae and
04	04	08	Practical II	Poaceae 4a. Microbes in Agriculture
Month: October			Module/Unit:	Sub-units planned
04	04	08	Unit IV : Biofertilizer Practical II	4b. Organic Farming

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(Dr. A. R. Kasarkor) Name and Signature of Teacher



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DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

Name of the teacher: Dr. Sarika Deepak Patil.

Programme: B. Sc. I Semester: I

Subject: Botany

Course Title: "Indian Knowledge System" IKS: IKS03GEC11

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit-1: Introduction to Ayurveda	<ul><li>1a. Ayurvedic medicinal system</li><li>1b. Principles of</li></ul>
03	00	03		Ayurveda (Vata, Pitta, Kapha)
Mon	th: Septeml	ber	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit-1: Introduction to	<ol> <li>Ayurvedic therapies</li> <li>Unani system of medicine</li> </ol>
04	00	04	Ayurveda.	le. Siddha system of medicine
Mo	onth: Octobe	er	Module/Unit:	Sub-units planned
03	00	03	Unit-1: Introduction to Ayurveda.	1f. Future of herbal drugs 1g. Study of medicinal plants- Punarnava, Vasaka, Shatavar,
				Brahmi and Arjuna

(Dr. sonika D. Pedil.)

Name and Signature of Teacher



an Name and Signature of HoD

DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

Name of the teacher: Dr. Surika Deepak Patil.

Programme: B. Sc. I

Semester: I

Subject: Botany

Course Title: "DSC BOT- PR-I : 2DSC03BOT29: DSC"

Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals -1	<ol> <li>Study of Microscope and its parts.</li> <li>Study of Nostoc.</li> </ol>
	02	-		3) Study of Mucor
Month: September		Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Practicals -1	<ul><li>4) Study of Moss.</li><li>5) Study of Pteris.</li></ul>
	04			<ul><li>6) Study of Picers.</li><li>7) Study of Hibiscus.</li></ul>
Mo	onth: Octobe	r	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals -I	8) Study of different types
9 <b>9</b> •	04			of tissue – Simple and Complex. 9) Study of types of seed – Dicot and Monocot.

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Name and Signature of Teacher



au Name and Signature of HoD MEAD DEPARTMENT OF DOTAMY VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUXONOMOUS)



Academic Year: 2024-2025

Name of the teacher: Dr. Sarika Deepak Patil.

Programme: B. Sc. II Semester: III

Subject: Botany (Minor)

Course Title: "MIN03BOT31: Diversity in non-flowering plant"

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total		Introduction, Distribution
02	05	07	Unit -3: Bryophyta:	in India, Range of Thallus organization,
Month: August		t	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit -3: Bryophyta	Methods of reproduction Outline classification
03	06	09		according to Parihar (1965),
Month: September		ber	Module/Unit:	Sub-units planned
03	06	09	Unit -3: Bryophyta	Study of example with reference to occurrence, plant body and life cycle of <i>Riccia and</i> <i>Anthoceros</i> .

(Do Sanka D. Patil.) Name and Signature of Teacher



ango 11 Name and Signature of HoD HEAD DEPARTMENT OF BOTANT

DEPARTMENT OF BOTANT VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year 2024-2025

Name of the teacher Dr. Sarika Deepak Patil.

Programme B. Sc. II Semester III

Subject Botany (Major)

Course Title "DSC03BOT31: Diversity of Cryptogams"

Month: July			Module/Unit:	Sub-units Planned
Lectures	Practicals	Total	Line 2 Developer	Introduction, Distribution in India, Range of Thallus organization.
02	00	02	Unit -3: Bryophyta	Thanks of gamzariou
Month: August			Module/Unit:	Sub-units Planned
Lectures	Practicals	Total	Unit -3: Bryophyta	Methods of reproduction. Outline classification according to Parihar
03	00	03		(1965),
Month: September			Module/Unit:	Sub-units Planned
03	00	03	Unit -3: Bryophyta	Study of example with reference to occurrence, plant body and life cycle of <i>Riccia</i> and <i>Anthoceros</i>

(Dr. sorika D. Patil) Name and Signature of Teacher



Name and Signature of HoD 176 DEPARTMENTATIO VIVERAMAND COLLEGE, KOLHAPUR EMPOWENED ATTWOMOUS

Academic Year: 2024-2025

Name of the teacher: Dr. Sarika Deepak Patil

Programme: B. Sc. III

Semester: V

Subject: Botany

Course Title: "Paper - V "Biochemistry and Stress Physiology & Plants Systematics and Pale botany" (DSE – 1007 E3) Section I: Biochemistry and Stress Physiology"

Month: July			Module/Unit:	Sub-units planned
Lectures	ectures Practical Total		Unit:1 Plant Biochemistry	la:Introduction and classification of
02	00	07	Carbohydrate metabolism and Practical: 1 (DSE7E1) Section: I Section: II Cytology and Research Techniques in Life Sciences Microbiology, Plant Pathology and Bio fertilizers	Carbohydrates 1b: Properties of Monosaccharide,
Ma	onth: Augu	st	Module/Unit:	Sub-units planned
Lectures Practical Total		Total	Unit:1	Oligosaccharides, Polysaccharides.
05	04	10	Plant Biochemistry Carbohydrate metabolism and Practical: 1 (DSE7E1) Section: I Section: II Cytology and Research Techniques in Life Sciences Microbiology, Plant Pathology and Bio fertilizers	1c: Significance of Carbohydrate Protein metabolism.
Mont	th: Septem	ber	Module/Unit:	Sub-units planned
06	04	12	Unit:1 Plant Biochemistry- Carbohydrate metabolism and Practical: I (DSE7E1) Section: I Section: II Cytology and Research Techniques in Life Sciences Microbiology, Plant Pathology and Bio fertilizers	1d:Introduction, properties and characters of amino acids

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Month: October		Module/Unit:	Sub-units planned
03 06	09	Unit:1 Plant Biochemistry- Carbohydrate metabolism and Practical: I (DSE7E1) Section: I Section: II Cytology and Research Techniques in Life Sciences Microbiology, Plant Pathology and Bio fertilizers	1e:Protein-structure and classification 1f:Protein synthesis

(Drs. Sarika D. Patil.) Name and Signature of Teacher



Tango th Name and Signature of HOD HEAD DEPARTMENT OF BOTANY VIVERAMAND COLLEGE, KOLHAPUR (EMPOWSRY) STEDNIMOUS)

#### Vivekanand College, Kolhapur (Empowered Autonomous)

#### Department of Botany Annual Teaching Plan

Academic Year: 2024-2025

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B. Sc. III

Semester: V

Subject: Botany

Course Title: "Plant Biochemistry and Stress Physiology"

Month : July			Module/Unit:	Sub-units planned
Lectures	res Practicals Tot		Paper: DSE 7 E2	
02		02	Section I : Unit 3 – Stress Physiology	Defining plant stress, Water stress
Month :	August		Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Paper: DSE 7 E2	3b: Temperature stress,
05		05	Section 1 : Unit 3 – Stress Physiology	Salinity stress 3c: Stress sensing mechanism
Month :	September		Module/Unit:	Sub-units planned
06		06	Paper: DSE 7 E2 Section I : Unit 4 – Senescence and Aging	<ul> <li>4a: Introduction, Patterns of senescence</li> <li>4b: Physical changes during senescence.</li> <li>4c: Control of senescence</li> </ul>
			Paper: DSE 7 E2 Section II : Unit 1 – Importance of Plant Systematics	1a. Introduction to systematics
Month : October			Module/Unit:	Sub-units planned
04		04	Paper: DSE 7 E2 Section II : Unit 1 – Importance of Plant Systematics	1a: Evidences from Palenology, Cytology Phytochemistry and Molecular data



lang Name and Signature of HoD DEPARTMENT OF BOYANY VIVERANAND COLLEGE, KOLHAPUR CHIDOWERLO MI OMOMOUSI

Semester: III

Academic Year: 2024-2025

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B. Sc. II (Major)

Subject: Botany Course Title: "Diversity of Cryptogams"

Month : July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	DSC03BOT31 Unit 4 : Pteridophytes	4a. Introduction, Distribution in India
02	00	02	Onit 4 . Fleridopilytes	Distribution in main
Month :	August		Module/Unit:	Sub-units planned
Lectures	Practical's	Total		4b. Methods of
04	00	04	DSC03BOT31 Unit 4 : Pteridophytes	reproduction, Outline of classification according to Smith, Occurance, Plant body and life cycle of Selaginella
Month :	September		Module/Unit:	Sub-units planned
04	00	04	DSC03BOT31 Unit 4 : Pteridophytes	Occurance, Plant body and life cycle of <i>Azolla</i> Heterospory.
			DSC03BOT32 "Diversity of Phanerogams" Unit 4 : Taxonomic Importance	Molecular taxonomy and DNA Barcoding of plants.
Month : October			Module/Unit:	Sub-units planned
04	00	04	DSC03BOT32 "Diversity of Phanerogams" Unit 4 : Taxonomic Importance	Herbarium techanique and Digital herbaria.





gel Name and Signature of HoD DEPARTMENT OF BOYANY WVEKANAND COLLEVE, KOLHAPUR TEMPOWERED AUTONOMOUS

Academic Year: 2024-2025

Name of the teacher: Dr. Annapurna R. Alvikar

Programme: B. Sc. II (Minor)

Semester: III

Subject: Botany Course Title: "Diversity in Non- flowering plant"

Month : .	July		Module/Unit:	Sub-units planned
Lectures	Practical's	Total	MIN03BOT31	4a. Introduction, Distribution in India
02	00	02	Unit 4 : Pteridophytes	Distribution in fuzza
Month :	August		Module/Unit:	Sub-units planned
Lectures	Practical's	Total	MIN03BOT31	Methods of
04	02	06	Unit 4 : Pteridophytes	reproduction, Outline of classification according to Smith, Occurance Plant body of Selaginella
Month :	September		Module/Unit:	Sub-units planned
04	04	08	MIN03BOT31 Unit 4 : Pteridophytes	life cycle of <i>Selaginella</i> . Occurance , Plant body and life cycle of <i>Azolla</i>
Month : October			Module/Unit:	Sub-units planned
04	04	08	MIN03BOT31 Unit 4 : Pteridophytes	Occurance, Plant body and life cycle of <i>Azolla</i> . Heterospory



une Name and Signature of HoD HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUP REMPOWERED AUTONOMOUS

Semester: I

Academic Year: 2024-2025

Name of the teacher: Dr. Annapurna Ram Alvikar

Programme: B. Sc. 1

Subject: Botany Course Title: Practical's

lonth : July		Module/Unit:	Sub-units planned
Practical's	Total		-
02	02		
August		Module/Unit:	Sub-units planned
Practicals	Total		_
04	04	-	
Month : September		Module/Unit:	Sub-units planned
04	04	-	-
October		Module/Unit:	Sub-units planned
04	04		-
	02 August Practicals 04 September 04 October	Practical's Total 02 02 August Practicals Total 04 04 September 04 04 October	Practical'sTotal0202AugustModule/Unit:PracticalsTotal04040404Module/Unit:040506060607060806080608060806080608060806080608060806080608060806 <t< td=""></t<>



awgat Name and Signature of HoD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR THEOWERED AUTONOMOUS

Academic Year: 2024-2025

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. III Semester: V

Subject: Botany

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### Course Title: "Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers"

N	fonth: July		Module/Unit:	Sub-units planned
Lectures	Practical	Total		Introduction, Eukaryotic cell components-Nucleus
02		05	Section I: Unit I1: Cell Organelles	
Мо	onth: Augu	st	Module/Unit:	Sub-units planned
Lectures	Practical	Total		Eukaryotic cell components-
05	-	05	Unit I1: Cell Organelles	Endoplasmic reticulum, Golgi complex Glyoxisomes, Peroxisomes and Lysosomes- Structure, composition and functions Specialized cell organelle- Ribosome
Mon	th: Septem	ber	Module/Unit:	Sub-units planned
06		06	Section I:	Radioactive isotopes, Introduction & examples
			Unit 4: Radiation Biology	Effect of radiations on Biological systems
				Beneficial effects of radiations



Month: October			Module/Unit:	Sub-units planned
03		03	Section 1: Unit 4: Radiation Biology	Autoradiography Technique Geiger-Muller Experiment / Liquid Scintillation Counter Precautionary measures

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Name and Signature of Teacher (Dr. Priya D. Patil)



ana Name and Signature of HoD HEAD DEPARTMEN OF BOTANY WERANAND CO LEGE, KOLHAPUR (EMPOWERCD AUTONOMOUS)

Academic Year: 2023-2024

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. II Semester: III

Subject: Botany (Major)

Course Title: "DSC03BOT31: Diversity of Cryptogams"

Month: July		Module/Unit:	Sub-units Planned	
Lectures	Practicals	Total	Unit I: Algae	Cryptogams: Introduction, General Characters
03		03		Algae: Introduction
Me	onth: Augus	it	Module/Unit:	Sub-units Planned
Lectures	Practicals	Total	Unit I: Algae	Range of Thallus organization
05	-	05		Modes of reproduction Classification of Algae (G. M. Smith)
Моп	th: Septem	ber	Module/Unit:	Sub-units Planned
05	-	05	Unit I: Algae	Study of example with reference to occurrence, plant body and life cycle of <i>Spirogyra</i> and <i>Sargassum</i> Economic importance of Algae
Month: October		Module/Unit:	Sub-units Planned	
02	-	02	Unit: I Gymnosperms	Pinus: Occurrence, habitat, vegetative structure, reproduction and Life cycle

fing Name and Signature of Teacher (Dr. Priya D. Patil)



a Name and Signature of HoD

HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPON (EMPOWERED AUTONOMOUS)

Academic Year: 2023-2024

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. II Semester: III

Subject: Botany (Minor)

Course Title: "MIN03BOT31: Diversity in non-flowering plant"

Month: July			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Section II: Unit I: Algae	Cryptogams: Introduction, General Characters
03	04	07	<b>g</b>	Algae: Introduction
Month: August			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit I: Algae	Range of Thallus organization
05	06	11	1	Modes of reproduction
				Classification of Algae (G. M. Smith)
Mon	th: Septem	ber	Module/Unit:	Sub-units planned
05	06	ш	Unit I: Algae	Study of example with reference to occurrence, plant body and life cycle of <i>Spirogyra</i> and <i>Sargassum</i>
				Economic importance of Algae

Name and Signature of Teacher (Dr. Priya D. Patil)



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Name and Signature of HoD HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. I Semester: I

Subject: Botany

Course Title: "Basics in Botany"

Month: August			Module/Unit:	Sub-units planned	
Lectures Practicals Total		Total	Unit II: General outline of plant kingdom	Study of characters of plant kingdom	
03	04	07	plant Kingdom	Study of classification of plant kingdom	
Month: September		ber	Module/Unit:	Sub-units planned	
Lectures	Practicals	Total	Unit II: General outline of	Study of five divisions with respect to characters	
04	06	10	plant kingdom	and economic importance	
Month: October		er	Module/Unit:	Sub-units planned	
05 06 11		11	Unit IV: Organization of higher plant body	Plant organs (Root, Stem and Leaf)	
				Development of plant body Internal organization	
				Study of tissue systems- Meristematic tissue, simple and complex tissue	

Name and Signature of Teacher (Dr. Poiya D. Patil)



Name and Signature of HoD HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 2024-2025

Name of the teacher: Dr. Priya Digambar Patil

Programme: B. Sc. 1 Semester: I

Subject: Botany

Course Title: "OEC03LFS11: Herbal Cosmetics-I"

Month: August			Module/Unit:	Sub-units planned
.ectures	Practicals	Total	-	
	02	02		
Month: September		Module/Unit:	Sub-units planned	
ectures	Practicals	Total		
	05	05		
Month: October		Module/Unit:	Sub-units planned	
Lectures	Practicals	Total		
-	04	04		

Jaipak S Name and Signature of Teacher (Dr. Priya D. Patil)



Name and Signature of HoD

#### Vivekanand College, Kolhapur (Autonomous)

#### Department of Botany Annual Teaching Plan

Academic Year: 2024-2025

#### Name of the teacher: Dr. Mrunalini Nilesh Desai

Programme: B. Sc. I

Semester: I

Subject: Botany

#### Course Title: "Basic in Botany" (DSC03BOT11)

onth: Augus	t	Module/Unit:	Sub-units planned
Practical	Total		
02	02	Practical-I	
Month: September		Module/Unit:	Sub-units planned
04	04	Practical-I	-
onth: Octobe		Module/Unit:	Sub-units planned
04	04	Practical-I	
	Practical 02 th: Septeml 04 onth: Octobe	02 02 hth: September 04 04 onth: October	Practical     Total       02     02       Practical-I       04     04       04     04       Practical-I       Module/Unit:       Module/Unit:

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angel Name and Signature of HoD HE/AD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Academic Year: 20242025

#### Name of the teacher: Dr. Mrunalini Nilesh Desai

#### Programme: B. Sc. II (Major)

Subject: Botany

Course Title: "Diversity of Cryptogams" (DSC-V: DSCBOT31)

lonth: July		Module/Unit:	Sub-units planned	
Lectures Practicals Total		Unit II: Fungi	Introduction, Habit (Types of mycellium),	
	04		Mode of Nutrition. Methods of reproduction.	
Month: August		Module/Unit:	Sub-units planned	
Practicals	Total	Unit II: Fungi	Outline of classification according to Alexopoulous	
	04		and Mims (1979). Economic importance of Fungi.	
Month: September		Module/Unit:	Sub-units planned	
-	04	Unit II: Fungi	Rhizopus - occurance, plant body and life cycle Puccinia - occurance, plant body and life cycle	
Month: October		Module/Unit:	Sub-units planned	
	04	"Diversity of Phanerogams" (DSC-VI: DSCBOT32) Unit II:Gymnosperms	Introduction, Distribution in India, Methods of reproduction. Outline of classification	
	Practicals  onth: Augus Practicals  th: Septeml	PracticalsTotal04onth: AugustPracticalsTotal04th: September04onth: October	PracticalsTotalUnit II: Fungi04 $Unit II: Fungionth: AugustModule/Unit:PracticalsTotalUnit II: Fungi04Unit II: Fungi04Unit II: Fungith: SeptemberModule/Unit:04Unit II: Fungionth: OctoberModule/Unit:04Unit II: Fungionth: OctoberModule/Unit:04"Diversity of Phanerogams"04"Diversity of Phanerogams"$	

HAND COLLE STD JUNE 1964 Name and Signature of Teacher (Dr. Mrunalini Desai)

Name and S ignature of HoD HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUF (EMPOWERED AUTONOMOUS)

Semester: III

Academic Year: 2024-2025

#### Name of the teacher: Dr. Mrunalini Nilesh Desai

Programme: B. Sc. II (Minor)

Semester: III

Subject: Botany Course Title: "Diversity in non flowering plants"(DSC-VI: DSCBOT32)

Month: July			Month: July Module/Unit:	
Lectures	Practicals	Total	Unit II: Fungi	Introduction, Habit (Types of mycellium),
02		02		Mode of Nutrition. Methods of reproduction.
М	onth: Augus	t I	Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit II: Fungi	Outline of classification according to Alexopoulous and Mims
03	02	05		(1979).
Month: September		Module/Unit:	Sub-units planned	
04	04	08	Unit II: Fungi	<i>Rhizopus</i> - occurance, plant body and life cycle
Month: October		Module/Unit:	Sub-units planned	
04	04	08	Unit II: Fungi	Puccinia - occurance, plant body and life cycle Economic importance of Fungi.

Name and Signature of Teacher (Dr. Munalini N. Desai)



Name and Signature of HoD AP DEPARTME NT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS'



Department of Botany Annual Teaching Plan

Academic Year: 2024-2025

Name of the teacher: Dr. Mrunalini Nilesh Desai

Programme: B. Sc. II

Semester: III

Subject: Botany

# Course Title: VSC-PR-II: "Bonsai and Terrarium" (VSC03BOT31)

Mo	onth: Augus	t 🛛	Module/Unit:	Sub-units planned
Lectures	Practical	Total		
	02	02	Practical-I	-
Month: September		per	Module/Unit:	Sub-units planned
	04	04	Practical-I	
Month: October			Module/Unit:	Sub-units planned
	04	04	Practical-I	

ESTP JI' Name and Signature of Teacher (Dr. Munalini N. Desci) ered Autono

Name and Signature of HoD HEAD DEPARTMENT OF BOTANY VIVERANAND COLLEGE, KOLHAPUP EMPOWERED AUTONOMOUS

Academic Year: 2024-2025

Name of the teacher: Dr. Mrunalini Nilesh Desai

Programme: B. Sc. III	Semester: V	Subject: Botany
Programme: <b>B. Sc. III</b>	Semester. Y	

Course Title: "Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers" (DSE7E1)

Month: July			Module/Unit:	Sub-units planned
04	04		Section II: Unit III: Study of Plant Diseases	Introduction, Cereals: Rust of Wheat
Mo	nth: Augu	st	Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section II:	Cash crop: Red Rot of Sugarcane
05		05	Unit 111: Study of Plant Diseases	Legume: Wilt of Gram Spices: Leaf spot of Black Peeper
Month: September		ber	Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit I1I: Study of Plant Diseases	Vegetable: Onion Smut Fruit: Apple Scab
05		05	Unit I1: Plant Pathology	Classification of plant diseases based on pathogen, crops and symptoms.
Month: October		er	Module/Unit:	Sub-units planned
04		04	Unit II: Plant Pathology	Study of mechanism of Infection in disease development, prevention and control of plant diseases. Role of Quarantine. Significance of Plant Pathology.

Name and Signature of Teacher (Dr. Mrunalini N. Desai)



Name and Signature of HoD HEAD DEPARTIMENT OF BOTAN WVEKANAND COLLEGE, KOLHAPUF (EMPOWERED AUTONOMOUS)

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#### Vivekanand College, Kolhapur ( Empowered Autonomous)

Department of Botany Annual Teaching Plan

Academic Year: 2024-2025

Name of the teacher: Dr. Snehal Sanjay Wadkar

Programme: B. Sc. I

Subject: Botany

#### Course Title: "Basic in Botany" (DSC03BOT11)

Semester: I

Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
	02	02	Practical-I	
Month: September			Module/Unit:	Sub-units planned
	04	04	Practical-I	-
Month: October			Module/Unit:	Sub-units planned
	04	04	Practical-I	

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Name and Signature of Teacher (Dr. Spehol S. Wadkar)





Academic Year: 2023-2024

Name of the teacher: Dr. Snehal Sanjay Wadkar

Programme: B. Sc. II (Minor)

Semester: III

Subject: Botany Course Title: "Plant Taxonomy" (MIN 03BOT32)

Month: July			Module/Unit:	Sub-units planned
Lectures	ctures Practicals Total		Unit 1: Introductory	Introduction, Importance of Taxonomy
02		02	Taxonomy	
M	onth: Augus	t	Module/Unit:	Sub-units planned
LecturesPracticalsTotal030205		Total	Unit I: Introductory	Functions of Taxonomy- Identification,
		05	Taxonomy	Nomenclature, Classification, Ranks, Categories and Taxonomic groups.
Month: September		ber	Module/Unit:	Sub-units planned
04	04	08	Unit III: Tools for Taxonomic Studies	Herbarium- Introduction, Roles and Significance Botanical Gardens- Introduction, Role, Significance
Month: October		er	Module/Unit:	Sub-units planned
03	04	05	Unit III: Tools for Taxonomic Studies	Sir. J.C. Bose Botanical Garden, Calcutta, Kew Botanical Garden, Kew., Lead Botanical Garden, Shivaji University, Kolhapur.

Name and Signature of Teacher (Dr. Spehal S. Wadkar)

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Name and Signature of HoD DEPARTMENT OF BODOWN VIVEKANAND COLVEGE, KOL HAPPIN (AUTONOMOUS)

## Vivekanand College, Kolhapur ( Empowered Autonomous)

Department of Botany Annual Teaching Plan

Academic Year: 2024-2025

#### Name of the teacher: Dr. Snehal Sanjay Wadkar

Programme: B. Sc. II

Semester: III

Subject: Botany

## Course Title: VSC-PR-II: "Bonsai and Terrarium" (VSC03BOT31)

onth: Augus	t	Module/Unit:	Sub-units planned
Practical	Total		
02	02	Practical-I	
Month: September		Module/Unit:	Sub-units planned
04	04	Practical-I	
nth: Octobe	r	Module/Unit:	Sub-units planned
04	04	Practical-I	
	Practical 02 th: Septemb 04 nth: Octobe	02 02 th: September 04 04 nth: October	Practical     Total       02     02       02     02       Practical-1       Module/Unit:       04     04       Practical-1       Module/Unit:       Module/Unit:

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Name and Signature of Teacher (Dr. Snebal S. Wodkar)

tanya Name and Signature of HoD

DEPARTMENT OF BUTANY VIVEKANAND COLLEGE, KOLHAPHD (AUTONOMOUS)



Academic Year: 2023-2024

Name of the teacher: Dr. Snehal Sanjay Wadkar

Programme: B. Sc. III Semester: V Subject. Bota	Programme: B. Sc. III	Semester: V	Subject: Botany
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Course Title: "Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers" (DSE7E1)

"Plant Biochemistry and Stress Physiology & Plants Systematics and Paleobotany" (DSE7E1)

Month: July			Module/Unit:	Sub-units planned
04	-	04	Section I: Unit III: Analytical Techniques in Plant Sciences	Principals of Microscopy - Light Microscopy, Fluorescence and Electron( TEM and SEM) Microscopy.
Month: August			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section I:	Chromatography Principals-Paper
05	03	08	Unit III: Analytical Techniques in Plant Sciences	Chromatography, TLC HPLC
Month: September			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Section-I	Introduction and Classification of Lipids,
05	04	08	Unit II: Lipid Metabolism and Fatty acid metabolism	Properties of Fatty acids (Saturated Fatty acids, Unsaturated Fatty acids)
Month: October			Module/Unit:	Sub-units planned
05	03	08	Section- I Unit II: Lipid Metabolism and Fatty acid metabolism	Beta oxidation, Gluconeogenesis and role in mobilization of fatty acids during germination, Significance of lipids.

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Name and Signature of Teacher

(Dr. Spebal S. Wadkar)

Name and Signature of HoD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, ROLHAPUM (AUTO/IO/ADUS)

Academic Year: 2024-2025

Name of the teacher: Ms. Pradnya Baban Shelar

Semester: I Programme: B. Sc. I

Subject: Botany

#### Course Title: "Basic in Botany" (DSC03BOT11)

Month: August			Module/Unit:	Sub-units planned	
Lectures	Practical	Total	Unit-I:	<ul> <li>Role of plants in human</li> </ul>	
02	-	02	Importance of Plant	welfare (Direct and indirect), Role of plants in ecological services	
Month: August			Module/Unit:	Sub-units planned	
Lectures	Practical	Total	And Paperson		
04	02	06	Unit-I: Importance of Plant	<ul> <li>Evolutionary history of plants</li> <li>Study of Algae:Nostoc</li> </ul>	
Month: September		Module/Unit:	Sub-units planned		
04	04	08	Unit:II Study of following examples with reference to occurrence, plant body and life cycle	<ul> <li>Study of Fungi: <i>Mucor</i></li> <li>Study of Bryophyte: Moss</li> </ul>	
Month: October			Module/Unit:	Sub-units planned	
04	04	08	Unit:II Study of following examples with reference to occurrence, plant body and life cycle	<ul> <li>Study of Pteridophyte: <i>Pteris</i> </li> <li>Study of Gymnosperms:<i>Cycas</i> </li> </ul>	

Name and Signature of Teacher (Ms. Pradnys B. Shelar)



an Name and Signature of HoD DEPARTMENT & BOTANY WVEKANAND GOLLZGE, KOLHAPM (EMPOWERED AUTONOMOUS:

Academic Year: 2024-2025

Name of the teacher: Ms. Pradnya Baban Shelar

Programme: B. Sc. II (Open Elective)

Subject: Botany

Course Title: OEC03LFA11: Life Science-I Herbal Cosmetics-I

Semester: III

onth: Augus	t	Module/Unit:	Sub-units planned
Practicals	Total		
02	02	Practical I	
th: Septeml	per		
Practicals	Total		
04	04	Practical I	
onth: Octobe	r		
04	04	Practical I	
	Practicals 02 th: Septemb Practicals 04 onth: Octobe	PracticalsTotal0202th: SeptemberPracticalsTotal0404onth: October	Practicals     Total       02     02       Practical I       Practical I       Practicals     Total       04     04       Practical I

Name and Signature of Teacher

(Ms. Pradnya B. Shelar) HAND COLLEGE EST 1964 Crotup Dera

Blanga Name and Signature of HoD HEAD DEPARTMENT OF BOTANY VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTOMOMOUS)

Academic Year: 2024-2025

Name of the teacher: Ms. Pradnya Baban Shelar

Programme: B. Sc. III Semester: V Subject: Botany

Course Title: "Cytology and Research Techniques in life sciences and Microbiology, Plant Pathology and Biofertilizers" (DSE7E1)

Month: July			Module/Unit:	Sub-units planned	
Lectures	Practical	Total	Section: I Unit:I Cell as a unit of Life	<ul> <li>The cell theory, Prokaryotic and</li> </ul>	
04	-	04		<ul> <li>Eukaryotic cells, Cell size and shape.</li> <li>Cell membrane and cel wall</li> </ul>	
Month: August			Module/Unit:	Sub-units planned	
04	04	08	Section: I Unit:I Cell as a unit of Life	<ul> <li>Models of menbrane structure.</li> <li>The functions of membranes</li> <li>Cell cycle</li> </ul>	
Month: September			Module/Unit:	Sub-units planned	
05	04	09	Section: I Unit:I Cell as a unit of Life	Apoptosis	
			Section:II Unit: I Microbiology, Plant Pathology and Biofertilizers	<ul> <li>Methods of microbiology</li> </ul>	
Month: October			Module/Unit:	Sub-units planned	
05	04	09	Section:II Unit: I Microbiology, Plant Pathology and Biofertilizers	<ul> <li>Micro-organisms in biological world</li> <li>Scope of microbesin Industry and Environment</li> </ul>	

Name and Signature of Teacher

(Ms. Pradnya B. Shelar)

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Name and Signature of HoD READ DEPARTMENT OF BOTANY WVEKANAND COLLEGE, KOLHAPUP (EMPOWERED AUTOMOMOUS)